Pennsylvania Compensation Rating Bureau
30 South 17th Street • Suite 1500
Philadelphia, PA 19103-4007
(215)568-2371 • FAX (215)564-4328 • www.pcrb.com

August 2, 2019

VIA SERFF

The Honorable Jessica Altman
Insurance Commissioner
Commonwealth of Pennsylvania
Insurance Department
11311 Strawberry Square
Harrisburg, PA 17120

Attention: Michael McKinney, Actuarial Supervisor, Property & Casualty Bureau

RE: PCRB Filing No. 300 – Proposed Effective April 1, 2020
Proposed Classification Change – Revise the Scope of Code 676, Sheet Metal Installation to Allow Payroll Developed in Shop Fabrication Work to be Separately Rated to Code 454, Sheet Metal Products Fabrication, Shop

Dear Commissioner Altman:

Resulting from a staff review and on behalf of the members of the Pennsylvania Compensation Rating Bureau (PCRB), we hereby submit the proposed filing for revisions to the Pennsylvania Workers' Compensation Manual of Rules, Classifications and Rating Values for Workers' Compensation and Employers Liability Insurance (Basic Manual). These revisions are proposed to take effect for policies with effective dates on or after April 1, 2020. This proposed effective date coincides with changes resulting from PCRB's normal annual comprehensive loss cost revision, which will be filed with the Insurance Department at a later date. This coordination consolidates necessary changes that our members and other constituents must make to policies, forms and systems so that they occur once annually. This proposal will not impact the PCRB loss cost for any classification, but will impact the premium of effected employers.

PCRB Code 676 was created effective for new and renewal business as of January 1, 1933. Code 676 applies to the installation of sheet metal products as specified in the Basic Manual Code 676 Underwriting Guide. Basic Manual language specifies that Code 676 must be applied to both the shop fabrication and the installation payroll developed by an employer engaged in both the shop fabrication and installation of sheet metal products.

The PCRB performed a study of Code 676 with three objectives: 1) to determine the feasibility of discontinuing Code 676 and reclassifying the operations assigned thereto from Code 676 to another existing classification; 2) absent discontinuing Code 676, to determine the feasibility of lifting the Code 676 classification restriction so that an employer engaged in both the shop fabrication and installation of sheet metal products may be classified to both the applicable shop classification (Code 454) and Code 676; and 3) to identify the types of businesses classified to Code 676 so that, in the absence of discontinuing the classification, staff can more clearly define its scope.

Staff reviewed the feasibility of discontinuing Code 676 and reassigning the operations assigned to either Code 651, Carpentry - Commercial Buildings, (for work performed on commercial or

industrial structures) or to Code 652, Carpentry – Residential (for work performed on residential structures i.e., one- or two-family detached houses, townhouses or row houses or buildings designed primarily for multiple occupancy (e.g., apartments) three stories or less in height). Pursuant to analyses of historical experience exhibits and statistical tests, and a comparison of the approved April 1, 2019 PCRB loss costs for Codes 676, 651 and 652, staff determined that it was not feasible to discontinue Code 676 and these considered reassignments. The approved April 1, 2019 loss costs for Codes 676, 651 and 652 are $3.46, $4.47 and $6.73, respectively. Reassignment from Code 676 to Code 651 would result in a rating value increase of 29.2 percent and reassignment from Code 676 to Code 652 results in a rating value increase of 94.5 percent. The approved April 1, 2019 maximum permissible rating value increase for an Industry 2 classification is 15 percent.

The PCRB does propose that for policies with effective dates of April 1, 2020 or later, Code 676 be restructured so that an employer engaged in both the shop fabrication and installation of sheet metal products may separately rate payroll developed in the shop fabrication work to Code 454. The approval of Code 454 for such employers represents a rating value decrease of 45.1 percent on the basis of the approved April 1, 2019 PCRB loss costs ($3.46 for Code 676 and $1.90 for Code 454). Staff recommends adopting this approach even though this decrease exceeds the approved April 1, 2019 maximum permissible rating value decrease for an Industry 2 classification (35 percent). The reasoning for this is that it will bring Code 676 in line with the majority of the PCRB's construction or erection classifications, which typically do not include fabrication work, while also recognizing the differences in process and hazard between fabrication and installation/erection operations. It will also bring the classification procedure for impacted employers in line with the procedure for other metal working classes that allow fabrication and installation work to be separately rated.

Staff found that though limited, the Basic Manual Code 676 Underwriting Guide is comprehensive in terms of the types of employers classified thereto. Thus, staff is not proposing any additions to amendments to the Code 676 Underwriting Guide.

Details of this filing are provided in PCRB's June 12, 2019 staff memorandum and June 12, 2019 executive summary, which are included as part of this filing. The memorandum and executive summary describe and explain the reasoning for the proposed revisions to the Basic Manual language. The memorandum, executive summary and proposals were reviewed by the PCRB Classification and Rating Committee at the Committee's June 12, 2019 meeting.

Thank you in advance for your review and attention to this filing. The PCRB is pleased to answer any questions that you or the Insurance Department staff may have regarding these proposals.

Sincerely,

William V. Taylor
President

Enclosure: June 12, 2019 Staff Memorandum and June 12, 2019 Executive Summary
Revisions to Section 2

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TO: Pennsylvania Compensation Rating Bureau Classification and Rating Committee

FROM: Robert Ferrante, Senior Classification Analyst – Technical Services

DATE: June 12, 2019

RE: **Executive Summary:** Class Study Report Code 676, Sheet Metal Installation

PCRB Code 676 was created effective for new and renewal business as of January 1, 1933. Code 676 applies to the installation of sheet metal products specified in the Code 676 Underwriting Guide from the Pennsylvania Workers' Compensation Manual of Rules, Classifications and Rating Values (Basic Manual) i.e., metal downspouts, gutters and metal ceilings, and to the installation of sheet metal products not otherwise classified. Basic Manual language specifies that Code 676 must be applied to both the shop fabrication and the installation payroll developed by an employer engaged in both the shop fabrication and installation of sheet metal products.

The PCRB study of Code 676 had three objectives: 1) to determine the feasibility of discontinuing Code 676 and reclassifying the operations assigned thereto from Code 676 to another existing classification, 2) absent discontinuing Code 676, to determine the feasibility of lifting the Code 676 classification restriction so that an employer engaged in both the shop fabrication and installation of sheet metal products may be classified to both the applicable shop classification (Code 454, Sheet Metal Products Fabrication, N.O.C, Shop Only) and Code 676 and 3) to identify the types of businesses classified to Code 676 so that, in the absence of discontinuing the classification, staff can more clearly define its scope.

Staff reviewed the feasibility of discontinuing Code 676 and reassigning the operations assigned thereto from Code 676 to Code 651, Carpentry - Commercial Buildings, (for work performed on commercial or industrial structures) and from Code 676 to Code 652, Carpentry – Residential (for work performed on residential structures i.e., one- or two-family detached houses, townhouses or row houses or buildings designed primarily for multiple occupancy (e.g., apartments) three stories or less in height). Pursuant to analyses of historical experience exhibits and statistical tests, and a comparison of the approved April 1, 2019 PCRB loss costs for Codes 676, 651 and 652, staff determined that it was not feasible to discontinue Code 676 and reassign those operations from Code 676 to Code 651 and Code 652.

The PCRB proposes that for policies with effective dates of April 1, 2020 or later, Code 676 be restructured so that an employer engaged in both the shop fabrication and installation of sheet metal products may separately rate payroll developed in the shop fabrication work to Code 454. The approval of Code 454 for such employers represents a rating value decrease of 45.1% on the basis of the approved April 1, 2019 PCRB loss costs ($3.46 for Code 676 and $1.90 for Code 454). Staff recommends adopting this approach even though this decrease exceeds the approved April 1, 2019 maximum permissible rating value decrease for an Industry 2 classification (35%) because it will bring Code 676 in line with the majority of the PCRB's construction or erection classifications, which typically do not include fabrication work, will recognize the differences in process and hazard between fabrication and installation/erection operations, and will bring the classification procedure for impacted employers in line with procedure for other metal working classes that allow fabrication and installation work to be separately rated.

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TO: Pennsylvania Compensation Rating Bureau (PCRB) Classification and Rating Committee

FROM: Robert Ferrante, Senior Classification Analyst – Technical Services

DATE: June 12, 2019

RE: Class Study Report – Code 676, Sheet Metal Installation

INTRODUCTION AND CLASS HISTORY

Code 676 was created effective for new and renewal business as of January 1, 1933. Code 676 applies to the installation of sheet metal products specified in the Code 676 Underwriting Guide from the Pennsylvania Workers' Compensation Manual of Rules, Classifications and Rating Values (Basic Manual) i.e., metal downspouts, gutters and metal ceilings, and to the installation of sheet metal products not otherwise classified. Basic Manual language specifies that Code 676 must be applied to both the shop fabrication and the installation payroll developed by an employer engaged in both the shop fabrication and installation of sheet metal products. This procedure applies whether or not the employer has separate shop fabrication and installation crews, and regardless of the percentage of the employer's overall operation that is attributable to shop fabrication versus installation. PCRB procedure prohibits a division of payroll between Code 676 and 659, Roofing, for payroll developed in operations conducted at the same job site or location.

The Code 676 scope and Basic Manual language have been revised periodically since its inception. Notable revisions include the following:

- Effective for new and renewal business as of June 30, 1950 and later, the installation of warm air heating systems, ventilating systems and other duct work is reassigned from Code 676 to Code 663, Plumbing.[1]

- Effective for new and renewal business as of September 1, 1977 and concurrent with the creation of Code 659, the Code 676 classification description is revised to specify that there is no payroll division (N.P.D.) permitted between Code 659 and Code 676.

- Effective for new and renewal business as of April 1, 1983 and later, the Code 676 classification description is revised to specify that there is no payroll division (N.P.D.) with Code 454, Sheet Metal Products Fabrication, N.O.C., Shop, and to include the phraseology "This classification includes incidental shop work."

- "N.P.D." is removed from the Code 676 and other classification descriptions due to perceived misinterpretations of that phraseology effective October 1, 1984.

- Effective for new and renewal business as of February 1, 1999 and later, the phraseology "This classification includes incidental shop work" is removed from the Code 676 classification description and replaced with "Code 676 shall be assigned to both the shop and the erection or installation payroll developed by an insured engaged in both the shop fabrication of sheet metal products and the erection or installation thereof."

Staff was prompted to conduct this study as a result of several PCRB reviews of individual employer classifications. In the course of those reviews, staff was compelled to assign Code 676 to an employer engaged in the both the fabrication and installation of sheet metal products on the basis of the existing

[1] Such operations are presently classified to Code 664, Heating, Ventilating or Air Conditioning Contractor, which was created effective for new and renewal business as of October 1, 192 and later.

Basic Manual language, even though in certain instances the employer was principally engaged in shop fabrication. The Basic Manual defines the term "principally engaged" as the business activity which generates more than 50 percent of an employer's overall revenue. It was observed that Rule IV.C.1.a. (under "Object of the Classification Procedure"), found in Section 1, Page 17 of the Basic Manual states that "The object of the classification procedure is to assign the one basic classification which best describes each distinct business enterprise of the insured within Pennsylvania…" and that PCRB staff in most cases determines an employer's field of business to be the manner in which the employer is principally engaged. Staff opined that the manner in which Code 676 is applied in instances where an employer is principally engaged in shop fabrication appears to be in conflict with the basic object of the classification procedure. Staff also noted that the scope of Code 676 is not clearly defined in the Basic Manual, given the limited number of entries contained in the Code 676 Underwriting Guide and the fact that certain sheet metal installation operations are assigned to classifications other than Code 676 (e.g., the installation of aluminum siding to either Code 651, Carpentry – Commercial Structures, or Code 652, Carpentry – Residential). With these observations in mind, staff identified the following objectives to the Code 676 study:

- To determine the feasibility of discontinuing Code 676 and reclassifying the operations assigned thereto from Code 676 to another existing classification.

- Absent discontinuing Code 676, the objective becomes to determine the feasibility of lifting the Code 676 classification restriction so that an employer engaged in both the shop fabrication and installation of sheet metal products may be classified to both the applicable shop classification (Code 454) and Code 676.

- To identify the types of businesses classified to Code 676 so that, in the absence of discontinuing the classification, staff can more clearly define its scope and create a more comprehensive Code 676 Underwriting Guide.

This is the first time the PCRB has studied Code 676.

CLASSIFICATION PROCEDURE IN OTHER JURISDICTIONS

As part of this analysis staff reviewed the classification procedure in effect in states under the jurisdiction of the National Council on Compensation Insurance, Inc. (NCCI), and in the independent Bureau states of New York (under the jurisdiction of the New York Compensation Insurance Rating Bureau (NYCIRB)) and California (under the jurisdiction of the Workers' Compensation Insurance Rating Bureau (WCIRB)). PCRB Code 676 is equivalent in part to NCCI Code 5535, Sheet Metal Work – Installation & Drivers. One notable difference is that NCCI Code 5535 does not contemplate fabrication work – the NCCI Code 5535 phraseology states "…The manufacturing of sheet metal products at a shop to be separately rated…" The NCCI assigns the fabrication of sheet metal products to NCCI Code 3076, Sheet Metal Products Mfg., which is equivalent in part to PCRB Code 454. The NCCI Code 5535 phraseology also suggests that this classification is somewhat broader in scope than PCRB Code 676. NCCI Code 5535 includes the installation of sheet metal siding on the exterior of a steel frame structure. The PCRB classifies such work to Code 651. Both the PCRB and the NCCI classify the installation of aluminum siding to each jurisdiction's respective commercial and residential carpentry classifications (i.e., Code 651 or Code 652 for the PCRB, and Code 5403, Carpentry – N.O.C., Code 5645, Carpentry – Construction of Residential Dwellings Not Exceeding Three Stories in Height, for the NCCI).

Both the NYCIRB and WCIRB use classification Code 5538, Sheet Metal Work – Erection, Installation or Repair – Shop and Outside, which is equivalent in part to PCRB Code 676. As with Code 676, NYCIRB and WCIRB Code 5538 includes both the shop fabrication and installation payroll developed by an employer engaged in both the fabrication and installation of sheet metal products. The NYCIRB and WCIRB Code 5538 phraseology suggests that this classification is also somewhat broader in scope than

PCRB Code 676, contemplating (as does NCCI Code 5535) the installation of sheet metal siding on the exterior of a steel frame structure.

FILE REVIEW

Staff performed a file by file review of the 721 employers on the PCRB's database reporting payroll to Code 676. The file by file review divided those employers into the study groups shown in the table below.

Study Group	Description	No. of Employers
1	Principally installs downspouts and/or gutters (no shop fabrication)	157
2	Principally fabricates and installs downspouts and/or gutters – separate shop and field crews	9
3	Principally fabricates and installs downspouts and/or gutters – interchanging shop and field crews	25
4	Principally fabricates and installs metal ceilings – separate shop and field crews	1
5	Principally fabricates and installs metal ceilings – interchanging shop and field crew	1
6	Sheet metal installation, N.O.C. (no shop fabrication)	68
7	Sheet metal fabrication and installation, N.O.C. – separate shop and field crews	14
8	Sheet metal fabrication and installation, N.O.C. – interchanging shop and field crews	47
9	Misclassified	86
10	Not yet reviewed	166
11	No Current Coverage/Unable to Determine	147

The employers in Study Group 1 are principally engaged in the installation of downspouts and/or gutters. Principally engaged is defined as the business activity that generates more than 50% of an employer's overall revenue. The employers in this study group do not perform any shop fabrication work, though some of the employers will fabricate downspouts and/or gutters at the downspout or gutter installation job site. The employers in Study Group 2 are principally engaged in the shop fabrication and installation of downspouts and/or gutters, and have separate shop and field crews. The employers in Study Group 3 are principally engaged in the shop fabrication and installation of downspouts and/or gutters. These employers' staffs interchange between the shop and field work. The employers in Study Groups 4 and 5 are principally engaged in the shop fabrication and installation of metal ceilings. The employer in Study Group 4 has separate shop and field crews and the employer in Study Group 5 uses an interchanging crew to perform shop and field work. The employers in Study Group 6 will install a variety of sheet metal products but are not principally engaged in the installation of a particular sheet metal product and do not perform any shop fabrication work. The employers in Study Group 7 are engaged in the shop fabrication and installation of a variety of sheet metal products with no principal sheet metal product, and have separate shop and field crews. The employers in Study Group 8 are engaged in the shop fabrication and installation of a variety of sheet metal products with no principal sheet metal product, and employees interchange between the shop and field work.

The 86 employers in Study Group 9 were determined to be misclassified to Code 676. The employers in Study Group 9 were reclassified from Code 676 to each employer's applicable classification(s). The employers in Study Group 10 were not assigned to one of the field of business study groups (i.e., Study Groups 1 through 6) either because the employer did not respond to the PCRB's Code 676 study Description of Operations Questionnaire or because no unit statistical data was reported to the PCRB for the employer. PCRB studies have historically excluded employers who have reported no unit statistical

data at the time of the study from the file by file review because those employers do not factor in a study's historical experience analysis or statistical testing. PCRB staff will prospectively review the files in Study Group 10 as warranted. The employers in Study Group 11 had no record of current compensation coverage at the time of the file by file review, and had no information in their PCRB files that would allow staff to slot them to one of the field of business study groups.
Staff developed several Code 676 historical experience exhibits for this study. The historical experience exhibits are based on the PCRB's April 1, 2019 loss cost filing as approved by the Pennsylvania Insurance Commissioner. Only those historical experience exhibits cited in the report are attached. The exhibits are attached in the sequence in which they are first cited. The indicated loss costs found at the bottom of the historical experience exhibits have not been loaded with the loss based Commonwealth assessments (e.g., the Subsequent Injury Fund, the Supersedeas Fund and the Administrative Fund) or the revenue neutral plans (e.g., the Merit Rating Plan and the Certified Safety Committee Credit Program) that are part of the PCRB's April 1, 2019 loss cost filing. Payroll figures in the exhibits are rounded to the nearest thousand dollars.

In addition to historical experience exhibits, this study includes paired t-test analyses to determine when there is a natural correspondence or "pairing" of specific observations between study groups. The t-test reduces the two samples to one by examining the differences between the observations in the two groups. The advantage to this approach is that variation within the groups does not mask the difference between their means as much as if the two groups were not paired. T-tests were run for reported pure premium, claim frequency (per million dollars of payroll) and claim severity (excluding medical only). For these tests, a value of .0500 or less is considered as indicating significant statistical difference.

FEASIBILITY OF DISCONTINUING CODE 676

The report has noted that one of the objectives of the PCRB Code 676 study is to determine if Code 676 should be discontinued and the operations contemplated by Code 676 be reassigned from Code 676 to another exiting classification(s). The file by file review illustrates that Code 676 is a focused classification essentially contemplating three employer groups. Of the employers assigned to field of business study groups, the majority works with gutters and downspouts. Two employers work with metal ceilings and the remainder work with a variety of sheet metal products with no principal product line. In view of the focused structure of Code 676 and the relatively small number of files in comparison to other PCRB construction or erection classifications, staff determined that these subsets should remain grouped together for purposes of this review.

As previously discussed, the PCRB classifies the installation of aluminum siding to either Code 651 or Code 652. Codes 651 and 652 are general carpentry classifications that apply to work performed on commercial structures (Code 651) or residential structures i.e., one- or two-family detached houses, townhouses or row houses or buildings designed primarily for multiple occupancy (e.g., apartments) three stories or less in height (Code 652) that is not specifically contemplated by any other construction or erection classification. The installation of aluminum siding as well as certain other operations contemplated by Codes 651 and 652 are reasonably analogous to the installation of downspouts, gutters and other sheet metal products contemplated by Code 676. The product being installed is bolted, screwed, nailed or otherwise attached to a building exterior, interior or some other substrate. Code 676 applies to work performed on either residential or commercial structures. Staff reviewed the feasibility of discontinuing Code 676 and reassigning the operations thereto from Code 676 to Code 651 for sheet metal installation work performed on commercial or industrial structures, and from Code 676 to Code 652 for sheet metal work performed on residential structures. That review included an historical experience comparison of the April 1, 2019 Code 676, Code 651 and Code 652 Class Book Pages, attached in the order shown below:

Exhibit No.	Exhibit Title
1	April 1, 2019 Code 676 Class Book Page
2	April 1, 2019 Code 651 Class Book Page
3	April 1, 2019 Code 652 Class Book Page

The historical experience comparison is summarized in the following table. The results of the comparison shows Code 676 to be favorable in relation to Code 651 and considerably favorable in relation to Code 652 for reported pure premium, indicated (pre-test) pure premium and indicated (post-test) pure premium.

Exhibit No.	Reported Pure Premium	Indicated (Pre-Test)	Indicated (Post Test)
1	2.838	2.880	2.880
2	3.635	3.215	3.215
3	5.511	5.246	5.246

The t-tests run for this analysis are listed below:

Exhibit No.	Exhibit Title
4	T-test Comparing the April 1, 2019 Code 676 Class Book Page with the April 1, 2019 Code 651 Class Book Page
5	T-test Comparing the April 1, 2019 Code 676 Class Book Page with the April 1, 2019 Code 652 Class Book Page

Exhibit 4 shows no significant statistical differences between Code 676 and Code 651 for reported pure premium and claim severity, and significant statistical differences between Code 676 and Code 651 for claim frequency. Exhibit 5 shows there are significant statistical differences between Code 676 and Code 652 for reported pure premium and claim frequency but not claim severity. On the basis of the t-tests and historical experience comparisons, staff concludes that it is not feasible to discontinue Code 676 and reassign the operations assigned thereto from Code 676 to Code 651 or to Code 652. While the t-tests show no significant statistical differences between Code 676 and Code 651 for reported pure premium, claim frequency or claim severity, there are significant statistical differences between Codes 676 and 652 for two of the three categories (reported pure premium and claim frequency). As the report has noted, discontinuing Code 676 would require reassigning operations classified thereto from Code 676 to Code 651 for work performed on commercial or industrial structures, and from Code 676 to Code 652 for work performed on residential structures. While the statistical tests suggest the feasibility of reassigning operations from Code 676 to Code 651, they do not indicate it is feasible to reassign operations from Code 676 to Code 652. Discontinuing Code 676 would only be feasible if operations classified to Code 676 could be reassigned to both Code 651 and Code 652. Further, the approved April 1, 2019 loss costs for Codes 676, 651 and 652 are $3.46, $4.47 and $6.73, respectively. Reassignment from Code 676 to Code 651 results in a rating value increase of 29.2% and reassignment from Code 676 to Code 652 results in a rating value increase of 94.5%. The approved April 1, 2019 maximum permissible rating value increase for an Industry 2 classification is 15%.

FEASIBILITY OF RESTRUCTURING CODE 676 TO ALLOW FOR THE SEPARATE CLASSIFIATION OF SHOP AND FIELD WORK

The report has noted that for an employer engaged in both the shop fabrication and installation of sheet metal products, both the shop payroll and the installation payroll must be assigned to Code 676. This procedure applies whether or not the employer has separate shop fabrication and installation crews, and regardless of the percentage of the employer's overall operation that is attributable to shop fabrication versus installation. Code 676 is one of the PCRB's construction/erection classifications. Such classifications are typically focused to field work.

The Code 676 study file by file review identified 97 total employers engaged in both the shop fabrication and installation of sheet metal products. Of those 97 employers, 24 use separate crews to perform the shop fabrication and the field installation work, and 73 use an interchanging crew that performs both shop

fabrication and field installation work. Staff compared the historical experience of employers engaged in both the shop fabrication and field installation of sheet metal products who use separate crews to perform the shop fabrication and field installation work with those employers who use an interchanging crew to perform both shop fabrication and field installation work. The historical experience comparison involves the following exhibits:

Exhibit No.	Exhibit Title
6	Sheet Metal Fabrication and Installation – Separate Shop and Field Crews
7	Sheet Metal Fabrication and Installation – Interchanging Shop and Field Crews

The comparison shows the historical experience of Exhibit 6 to be considerably favorable in relation to Exhibit 7. The historical experience comparison is summarized in the following table.

Exhibit No.	Reported Pure Premium	Indicated (Pre-Test)	Indicated (Post Test)
6	0.267	0.025	0.026
7	1.730	1.401	1.474

The historical experience comparison shows that the experience of employers who perform both sheet metal products fabrication and installation and who use separate crews of employees for the fabrication and installation work is more favorable than that for employers who perform both fabrication and installation work using an interchanging crew. Presumably this is due to Exhibit 6 including a segment of employees who have no field exposure. While the PCRB would have to perform special audits of the employers in Exhibit 7 to determine how much of those employers' payroll was attributable to installation work versus fabrication work, and would have to review claims data to determine the frequency and severity of claims filed for employees while doing installation work versus fabrication work, staff concludes from this analysis and from a comparison of the approved April 1, 2019 PCRB loss costs ($3.46 for Code 676 and $1.90 for Code 454) that sheet metal fabrication presents a less hazardous exposure than does sheet metal installation.

The t-tests run for this analysis are listed below:

Exhibit No.	Exhibit Title
8	T-test Comparing Exhibit 6 with Exhibit 7

Exhibit 8 shows there are no significant statistical differences between Exhibit 6 and Exhibit 7 for reported pure premium and claim severity and significant statistical differences for claim frequency.

Staff proposes that for policies with effective dates of April 1, 2020 and later Code 676 be restructured to allow for the separate rating of sheet metal product fabrication to Code 454. Such restructuring would apply whether or not a business performing both sheet metal products fabrication and installation uses separate crews for the fabrication and installation work, by way of the PCRB's 'separately rate' procedure. When the term "to be separately rated" or "separately rate" is found in a classification's definition, the payroll of personnel interchanging between that classification's tasks (e.g., shop) and also performing the specified function that is designated "to be separately rated" or "separately rate" (e.g., erection, installation) may be divided between that class and class(es) designated for the specified function, provided the employer's original payroll records show an allocation of payroll to both classifications for each interchanging employee. When separate payroll records are not maintained, the entire payroll of the interchanging employees shall be assigned to the insuring carrier's highest-valued classification representing any part of their work. Staff believes this approach will affirm the status of Code 676 as a construction/erection classification, recognize the differences in process and hazard between fabrication and installation/erection operations, and bring the classification procedure for impacted employers in line

with procedure for other metal working classes where the products being fabricated typically lend themselves to installation/erection. Both Code 411, Steel Fabricating – Bridge and Structural Shops, and Code 413, Iron Works – Shop – Ornamental, Non-Structural Iron or Steel Fabricating, include "separately rate" provisions for installation/erection work. This approach will also alleviate situations where the PCRB is compelled to assign Code 676 to an employer's entire operation even in instances where an employer is principally engaged in shop fabrication.

The approval of Code 454 for the employers in Exhibits 6 and 7 represents a rating value decrease of 45.1% on the basis of the approved April 1, 2019 PCRB loss costs. Staff recommends adopting this approach for reasons discussed above even though this decrease exceeds the approved April 1, 2019 maximum permissible rating value decrease for an Industry 2 classification (35%).

The proposed enabling Section 2 Manual language amendments are attached for the Committee's review. The PCRB will notify all employers classified to Code 676 when this filing is made. In the event of the Commissioners' approval of the filing, the carrier of record for each employer impacted by this proposal will be notified and a copy of that notice will be provided to the employer

Attachments.

c: Bill Taylor
Delisa Fairley
Vince Dean
Joe Lombo

PENNSYLVANIA WORKERS COMPENSATION MANUAL OF RULES, CLASSIFICATIONS AND RATING VALUES FOR WORKERS COMPENSATION AND FOR EMPLOYERS LIABILITY INSURANCE

Proposed Effective April 1, 2020

SECTION 2

RATING VALUES *through* **DEFINITIONS** *remains unchanged*.

CLASSIFICATIONS

454 SHEET METAL PRODUCTS FABRICATION, N.O.C., SHOP ~~ONLY~~

Sheet metal shall be thinner than #3 U.S. Standard Gauge (less than ¼" thick).

~~Code 676 shall be assigned to both the shop and the erection or installation payroll developed by an insured engaged in both the shop fabrication of sheet metal products and the erection or installation thereof~~.

OPERATIONS NOT INCLUDED:

1. Separately rate the installation of sheet metal products as provided for in this Manual.

UNDERWRITING GUIDE
No Change

676 SHEET METAL INSTALLATION, NO PAYROLL DIVISION WITH CODE 659 AT THE SAME LOCATION OR JOB SITE

~~Code 676 shall be assigned to both the shop and the erection or installation payroll developed by an insured engaged in both the shop fabrication of sheet metal products and the erection or installation thereof.~~

OPERATIONS NOT INCLUDED:

1. Separately rate the shop fabrication of sheet metal products to Code 454.

UNDERWRITING GUIDE
No Change

PENNSYLVANIA WORKERS COMPENSATION MANUAL OF RULES, CLASSIFICATIONS AND RATING VALUES FOR WORKERS COMPENSATION AND FOR EMPLOYERS LIABILITY INSURANCE

Proposed Effective April 1, 2020

SECTION 2

RATING VALUES *through* **DEFINITIONS** *remains unchanged*.

CLASSIFICATIONS

454 SHEET METAL PRODUCTS FABRICATION, N.O.C., SHOP

Sheet metal shall be thinner than #3 U.S. Standard Gauge (less than ¼" thick).

OPERATIONS NOT INCLUDED:

1. Separately rate the installation of sheet metal products as provided for in this Manual.

UNDERWRITING GUIDE
No Change

676 SHEET METAL INSTALLATION, NO PAYROLL DIVISION WITH CODE 659 AT THE SAME LOCATION OR JOB SITE

OPERATIONS NOT INCLUDED:

1. Separately rate the shop fabrication of sheet metal products to Code 454.

UNDERWRITING GUIDE
No Change

EXHIBIT 1

CLASS SHEET METAL INSTALLATION — PAYROLLS REFLECTING STANDARD EXCEPTIONS — CODE 676 — PAGE 200

MANUAL YEAR	PAYROLL IN THOUS	TOTAL REPT. LOSSES	PURE PREM. REPORTED					NUMBER OF CASES					
								DEATH	P.T.	MAJOR	MINOR	TEMP	ALL
2011	48,306	1,384,703	2.866							1	7	25	33
2012	49,849	1,917,092	3.845							2	4	21	27
2013	48,988	1,288,248	2.629							2	2	16	20
2014	50,741	929,747	1.832							1	3	16	20
2015	46,797	1,424,591	3.044								5	16	21
TOTAL	244,681	6,944,381	2.838							6	21	94	121
O.D.		2,785	.001									1	1

REPORTED LOSSES

MANUAL	INDEMNITY					MEDICAL					
YEAR	DEATH	P.T.	MAJOR	MINOR	TEMP	DEATH	P.T.	MAJOR	MINOR	TEMP	MED. ONLY
2011			164,448	382,046	138,173			52,404	244,637	310,590	92,405
2012			425,158	46,297	160,818			465,310	448,775	311,602	59,132
2013			525,531	135,048	153,394			129,263	113,051	145,337	86,624
2014			188,885	39,432	103,683			363,222	692	161,069	72,764
2015				288,148	257,903				311,264	474,387	92,889
TOTAL			1,304,022	890,971	813,971			1,010,199	1,118,419	1,402,985	403,814
O.D.					197					1,075	1,513

TRANSLATED LOSSES

MANUAL	INDEMNITY					MEDICAL					
YEAR	DEATH	P.T.	MAJOR	MINOR	TEMP	DEATH	P.T.	MAJOR	MINOR	TEMP	MED. ONLY
2011			201,778	469,535	191,507			88,772	325,123	430,167	86,676
2012		2,800	505,626	61,944	203,639		9,475	789,940	581,802	411,086	56,235
2013	145	4,693	637,108	179,198	196,817	1,060	4,097	239,617	149,222	180,000	82,466
2014	41	3,057	249,671	69,478	120,213	1,175	24,201	578,326	54,196	191,228	70,581
2015	296	6,448	462,245	369,846	243,219	1,897	17,161	465,020	404,701	381,901	90,753
TOTAL	482	16,998	2,056,428	1,150,001	955,395	4,132	54,934	2,161,675	1,515,044	1,594,382	386,711
O.D.			15	13	223			69	67	1,268	1,439

	SERIOUS	NON-SERIOUS	MED. ONLY	TOTAL
TOTAL TRANS. LOSSES PG B	4,294,733	5,216,393	388,150	
TOTAL TRANS. LOSSES PG A				
IBNR + FREQUENCY ADJUST.	-1,664,299	-1,188,543	950	
TOTAL LOSSES	2,630,434	4,027,850	389,100	
EXPECTED LOSSES	4,208,513	3,286,067	364,575	
CREDIBILITY	.05	.14	.21	
PURE PREMIUMS				
INDICATED (PRE-TEST)	1.075	1.646	.159	2.880
INDICATED (POST-TEST)	1.075	1.646	.159	2.880
PRES. ON RATE LEVEL	1.501	1.172	.130	2.803
DERIVED BY FORMULA	1.480	1.238	.136	2.854
UNDERLYING PRES. RATE	1.720	1.343	.149	3.212
PROPOSED	1.480	1.238	.136	2.854

YEAR	2-1-18	4-1-18	1-1-19	4-1-19	IND. RATE	3.306
IND. RATES				3.31	MINIMUM PREMIUM	
MAN. RATES	3.70	4.04	3.61	+ 3.31	PRESENT	

+PROPOSED

EXHIBIT 2

CLASS CARPENTRY - COMMERCIAL — PAYROLLS REFLECTING STANDARD EXCEPTIONS — CODE 651 — PAGE 177

MANUAL YEAR	PAYROLL IN THOUS	TOTAL REPT. LOSSES	PURE PREM. REPORTED					NUMBER OF CASES					
								DEATH	P.T.	MAJOR	MINOR	TEMP	ALL
2011	536,785	25,368,382	4.725					1		47	55	227	330
2012	534,132	20,589,986	3.873					3	2	25	57	197	284
2013	565,336	21,202,085	3.750					2		33	52	208	295
2014	607,797	22,567,769	3.713						1	31	47	179	258
2015	660,252	15,754,454	2.386					1	1	9	45	211	267
TOTAL	2,904,302	105,582,676	3.635					7	4	145	256	1022	1434
O.D.		18,610										1	1

REPORTED LOSSES

MANUAL	INDEMNITY					MEDICAL					
YEAR	DEATH	P.T.	MAJOR	MINOR	TEMP	DEATH	P.T.	MAJOR	MINOR	TEMP	MED. ONLY
2011	244,256		9,209,690	2,478,654	2,527,261	159		4,580,097	3,117,817	2,019,788	1,190,660
2012	884,734	716,361	6,068,229	2,587,802	2,773,433	46,079	92,354	2,406,807	1,752,937	2,421,532	939,718
2013	234,787		7,218,928	1,925,199	1,831,564	56,935		3,870,331	2,124,014	2,649,523	1,290,804
2014		229,833	6,654,051	2,592,805	2,640,623		531,043	4,547,480	1,648,191	2,494,532	1,229,211
2015	330,411	43,374	1,552,103	2,066,328	2,254,746	5,563	2,201,704	495,231	2,767,968	2,952,729	1,084,297
TOTAL	1,694,188	989,568	30,703,001	11,650,788	12,027,627	108,736	2,825,101	15,899,946	11,410,927	12,538,104	5,734,690
O.D.					2,206					4,217	12,187

TRANSLATED LOSSES

MANUAL	INDEMNITY					MEDICAL					
YEAR	DEATH	P.T.	MAJOR	MINOR	TEMP	DEATH	P.T.	MAJOR	MINOR	TEMP	MED. ONLY
2011	280,406		11,137,827	3,046,094	3,502,787	200		7,617,851	4,135,439	2,797,405	1,116,839
2012	926,616	1,122,341	7,205,027	3,222,524	3,510,415	178,890	180,244	3,904,202	2,302,395	3,153,209	893,672
2013	322,789	62,457	8,495,712	2,520,307	2,384,638	156,997	108,121	6,330,063	2,850,542	3,323,473	1,228,845
2014	1,455	288,502	8,708,389	3,512,369	3,273,081	13,153	999,474	6,816,058	2,245,303	2,956,095	1,192,335
2015	368,984	89,904	5,007,450	3,005,179	2,219,029	61,216	999,989	3,962,381	2,785,974	2,457,739	1,059,358
TOTAL	1,900,250	1,563,204	40,554,405	15,306,473	14,889,950	410,456	2,287,828	28,630,555	14,319,653	14,687,921	5,491,049
O.D.					3,058					5,841	11,699

	SERIOUS	NON-SERIOUS	MED. ONLY	TOTAL
TOTAL TRANS. LOSSES PG B	75,346,698	59,212,896	5,502,748	
TOTAL TRANS. LOSSES PG A				
IBNR + FREQUENCY ADJUST.	-29,076,853	-17,613,711	20,058	
TOTAL LOSSES	46,269,845	41,599,185	5,522,806	
EXPECTED LOSSES	74,466,302	49,315,047	6,970,325	
CREDIBILITY	.26	.71	1.00	
PURE PREMIUMS				
INDICATED (PRE-TEST)	1.593	1.432	.190	3.215
INDICATED (POST-TEST)	1.593	1.432	.190	3.215
PRES. ON RATE LEVEL	2.238	1.482	.209	3.929
DERIVED BY FORMULA	2.070	1.447	.190	3.707
UNDERLYING PRES. RATE	2.564	1.698	.240	4.502
PROPOSED	2.070	1.447	.190	3.707

YEAR	2-1-18	4-1-18	1-1-19	4-1-19	IND. RATE	4.294
IND. RATES				4.29	MINIMUM PREMIUM	
MAN. RATES	5.98	5.98	5.06	+ 4.29	PRESENT	

+PROPOSED

EXHIBIT 3

CLASS CARPENTRY - RESIDENTIAL — PAYROLLS REFLECTING STANDARD EXCEPTIONS — CODE 652 — PAGE 178

MANUAL YEAR	PAYROLL IN THOUS	TOTAL REPT. LOSSES	PURE PREM. REPORTED					NUMBER OF CASES DEATH	P.T.	MAJOR	MINOR	TEMP	ALL
2011	420,643	26,194,540	6.227					1		35	67	325	428
2012	415,095	29,191,340	7.032							40	95	296	431
2013	417,772	23,433,101	5.609							29	89	304	422
2014	446,422	23,123,511	5.179					1		25	77	284	387
2015	475,595	17,953,766	3.775					1		5	66	310	382
TOTAL	2,175,527	119,896,258	5.511					3		134	394	1519	2050
O.D.		23,687	.001									3	3

REPORTED LOSSES

MANUAL	INDEMNITY					MEDICAL					
YEAR	DEATH	P.T.	MAJOR	MINOR	TEMP	DEATH	P.T.	MAJOR	MINOR	TEMP	MED. ONLY
2011	3,000		6,819,064	2,861,308	2,267,216	852,561		4,164,443	4,768,359	3,452,296	1,006,293
2012			8,171,216	4,319,462	2,260,267			5,741,718	4,608,086	3,035,446	1,055,145
2013			4,977,833	4,190,750	2,606,676			2,703,153	3,645,351	4,249,827	1,059,511
2014	328,796		4,167,224	3,862,554	2,849,434	187,763		2,700,927	3,399,126	4,465,438	1,162,249
2015	40,000		1,220,669	3,170,310	3,331,555	14,759		1,656,998	3,474,271	4,036,092	1,009,112
TOTAL	371,796		25,356,006	18,404,384	13,315,148	1,055,083		16,967,239	19,895,193	19,239,099	5,292,310
O.D.					15,769					4,844	3,074

TRANSLATED LOSSES

MANUAL	INDEMNITY					MEDICAL					
YEAR	DEATH	P.T.	MAJOR	MINOR	TEMP	DEATH	P.T.	MAJOR	MINOR	TEMP	MED. ONLY
2011	3,234		8,235,079	3,504,560	3,142,363	1,006,431		6,198,643	6,156,879	4,781,423	943,903
2012		52,888	9,680,158	5,322,775	2,922,768		110,476	9,220,925	5,976,988	4,019,068	1,003,443
2013	1,378	51,574	6,621,467	5,147,340	3,263,027	22,196	91,530	5,326,447	4,717,202	5,240,354	1,008,654
2014	352,260	83,875	7,024,909	4,741,669	3,434,509	147,090	233,193	6,287,460	4,106,034	5,067,791	1,127,382
2015	48,609	95,344	6,434,313	4,451,306	3,177,329	51,012	273,761	6,455,514	4,222,829	3,458,903	985,902
TOTAL	405,481	283,681	37,995,926	23,167,650	15,939,996	1,226,729	708,960	33,488,989	25,181,932	22,567,539	5,069,284
O.D.		7	452	354	20,453		3	261	253	5,885	2,936

	SERIOUS	NON-SERIOUS	MED. ONLY	TOTAL
TOTAL TRANS. LOSSES PG B	74,110,489	86,884,062	5,072,220	
TOTAL TRANS. LOSSES PG A				
IBNR + FREQUENCY ADJUST.	-27,651,907	-24,309,984	16,834	
TOTAL LOSSES	46,458,582	62,574,078	5,089,054	
EXPECTED LOSSES	70,552,340	67,854,687	6,004,455	
CREDIBILITY	.22	.59	.88	
PURE PREMIUMS				
INDICATED (PRE-TEST)	2.136	2.876	.234	5.246
INDICATED (POST-TEST)	2.136	2.876	.234	5.246
PRES. ON RATE LEVEL	2.831	2.722	.241	5.794
DERIVED BY FORMULA	2.678	2.813	.235	5.726
UNDERLYING PRES. RATE	3.243	3.119	.276	6.638
PROPOSED	2.678	2.813	.235	5.726

YEAR	2-1-18	4-1-18	1-1-19	4-1-19	IND. RATE	6.634
IND. RATES				6.63	MINIMUM PREMIUM	
MAN. RATES	8.25	8.70	7.46	+ 6.63	PRESENT	

+PROPOSED

EXHIBIT 4

PENNSYLVANIA STATISTICAL STUDY

	676 CLASS SHEET METAL INSTALLATION		651 CLASS CARPENTRY - COMMERCIAL		
Manual Year		Pure Premium Reported		T - test values	
2011	2.867		4.726		
2012	3.846		3.874		
2013	2.630		3.750	2011 - 2015	0.1693
2014	1.832		3.713		
2015	3.044		2.386		

Manual Year		Claim Frequency per million		T - test values	
2011	0.683		0.615		
2012	0.542		0.532		
2013	0.408		0.522	2011 - 2015	0.9004
2014	0.394		0.425		
2015	0.449		0.404		

Manual Year		Claim Severity Excl Med Only		T - test values	
2011	39,161		73,266		
2012	68,813		69,543		
2013	60,081		67,496	2011 - 2015	0.1950
2014	42,849		82,708		
2015	63,414		54,944		

EXHIBIT 5

PENNSYLVANIA STATISTICAL STUDY

	676 CLASS SHEET METAL INSTALLATION		652 CLASS CARPENTRY - RESIDENTIAL		
Manual Year	Pure Premium Reported			T - test values	
2011	2.867		6.227		
2012	3.846		7.032		
2013	2.630		5.609	2011 - 2015	0.0056
2014	1.832		5.180		
2015	3.044		3.775		

Manual Year	Claim Frequency per million		T - test values	
2011	0.683	1.018		
2012	0.542	1.038		
2013	0.408	1.010	2011 - 2015	0.0008
2014	0.394	0.867		
2015	0.449	0.803		

Manual Year	Claim Severity Excl Med Only		T - test values	
2011	39,161	58,851		
2012	68,813	65,281		
2013	60,081	53,018	2011 - 2015	0.9168
2014	42,849	56,747		
2015	63,414	44,358		

EXHIBIT 6

CLASSIFICATION STUDY - PENNSYLVANIA

CLASS: 676 | INDUSTRY GROUP: 2 | CODE:

EXHIBIT 5: Sheet Metal Fabrication & Installation, N.O.C. - Separate Shop and Field Crews

Manual Year	Payroll in Thous.	Total Rept Losses	Pure Prem Reported	Total Trans Losses	Claim Severity	Claim Frequency	Number of Cases: Death	P.T.	Major	Minor	Temp	All
2011	6,441	41,444	0.643	57,238	41,060	0.1553	0	0	0	0	1	1
2012	7,098	253	0.004	241	#DIV/0!	0.0000	0	0	0	0	0	0
2013	6,063	479	0.008	456	#DIV/0!	0.0000	0	0	0	0	0	0
2014	7,693	47,600	0.619	67,325	21,519	0.2600	0	0	0	1	1	2
2015	7,492	3,158	0.042	3,085	#DIV/0!	0.0000	0	0	0	0	0	0
TOTAL	34,787	92,934	0.267	128,345	28,032	0.0862	0	0	0	1	2	3
O.D.		0	0.000				0	0	0	0	0	0

REPORTED LOSSES

Manual Year	Indemnity: Death	P.T.	Major	Minor	Temp	Medical: Death	P.T.	Major	Minor	Temp	Med. Only
2011	0	0	0	0	10,519	0	0	0	0	30,541	384
2012	0	0	0	0	0	0	0	0	0	0	253
2013	0	0	0	0	0	0	0	0	0	0	479
2014	0	0	0	20,000	6,574	0	0	0	0	16,463	4,563
2015	0	0	0	0	0	0	0	0	0	0	3,158
TOTAL	0	0	0	20,000	17,093	0	0	0	0	47,004	8,837
O.D.	0	0	0	0	0	0	0	0	0	0	0

TRANSLATED LOSSES

Manual Year	Indemnity: Death	P.T.	Major	Minor	Temp	Medical: Death	P.T.	Major	Minor	Temp	Med. Only
2011	0	0	0	0	14,579	0	0	0	0	42,299	360
2012	0	0	0	0	0	0	0	0	0	0	241
2013	0	0	0	0	0	0	0	0	0	0	456
2014	2	122	10,824	21,906	8,079	3	69	2,509	2,227	17,156	4,426
2015	0	0	0	0	0	0	0	0	0	0	3,085
TOTAL	2	122	10,824	21,906	22,658	3	69	2,509	2,227	59,457	8,568
O.D.	0	0	0	0	0	0	0	0	0	0	0

	SERIOUS	NON-SER	MED ONLY	TOTAL
TOTAL TRANSLATED LOSSES	13,529	106,248	8,568	
IBNR + FREQ. ADJUSTMENT	(242,353)	(173,058)	150	
TOTAL LOSSES	0	0	8,718	
EXPECTED LOSSES	598,336	467,189	51,833	
CREDIBILITY	0.01	0.04	0.06	
PURE PREMIUMS				
INDICATED (PRE-TEST)	0.000	0.000	0.025	0.025
INDICATED (POST-TEST)	0.000	0.000	0.026	0.026
PRES. ON LOSS COST LEVEL	1.556	1.215	0.135	2.906
DERIVED BY FORMULA	1.540	1.166	0.128	2.834
UNDERLYING PRES. LOSS COST	1.720	1.343	0.149	3.212
PROPOSED	1.540	1.166	0.128	2.834

YEAR	1-1-19	4-1-19	IND. LOSS COST =	3.287
IND. LOSS COST		3.29		
MAN.LOSS COST	3.61	3.29	ADJ. LOSS COST =	3.29

EXHIBIT 7

CLASSIFICATION STUDY - PENNSYLVANIA

CLASS 676 | INDUSTRY GROUP: 2 EXHIBIT 6: Sheet Metal Fabrication & Installation, N.O.C. - Interchanging Shop and Field Crew | CODE

Manual Year	Payroll in Thous	Total Rept Losses	Pure Prem Reported	Total Trans Losses	Claim Severity	Claim Frequency	Number of Cases: Death	P.T.	Major	Minor	Temp	All
2011	5,299	172,726	3,260	213,199	51,550	0.5661	0	0	0	1	2	3
2012	5,375	66,046	1,601	109,630	39,484	0.3721	0	0	0	0	2	2
2013	4,848	4,217	0.087	4,015	#DIV/0!	0.0000	0	0	0	0	0	0
2014	5,003	11,921	0.238	14,191	2,862	0.3998	0	0	0	1	1	2
2015	4,752	162,411	3.418	284,858	80,252	0.4209	0	0	0	1	1	2
TOTAL	25,277	437,321	1,730	625,893	44,427	0.3561	0	0	0	3	6	9
O.D		0	0.000				0	0	0	0	0	0

REPORTED LOSSES

Manual Year	Indemnity: Death	P.T.	Major	Minor	Temp	Medical: Death	P.T.	Major	Minor	Temp	Med. Only
2011	0	0	0	105,540	9,891	0	0	0	26,668	12,552	18,075
2012	0	0	0	0	18,181	0	0	0	0	60,786	7,079
2013	0	0	0	0	0	0	0	0	0	0	4,217
2014	0	0	0	932	2,896	0	0	0	609	1,286	5,198
2015	0	0	0	51,288	1,944	0	0	0	106,122	1,150	1,907
TOTAL	0	0	0	157,760	32,912	0	0	0	133,399	75,774	37,476
O.D	0	0	0	0	0	0	0	0	0	0	0

TRANSLATED LOSSES

Manual Year	Indemnity: Death	P.T.	Major	Minor	Temp	Medical: Death	P.T.	Major	Minor	Temp	Med. Only
2011	0	0	0	129,709	13,709	0	0	0	35,442	17,385	16,954
2012	0	5	378	325	22,341	0	6	839	1,210	77,794	6,732
2013	0	0	0	0	0	0	0	0	0	0	4,015
2014	0	16	1,105	1,445	2,993	0	12	466	759	1,383	6,012
2015	7	647	48,789	42,610	8,273	352	3,961	87,771	77,605	12,990	1,863
TOTAL	7	668	50,272	174,089	47,316	352	3,979	89,076	115,016	109,542	35,576
O.D	0	0	0	0	0	0	0	0	0	0	0

	SERIOUS	NON-SER	MED ONLY	TOTAL
TOTAL TRANSLATED LOSSES	144,354	445,963	35,576	
IBNR + FREQ. ADJUSTMENT	(178,569)	(127,374)	100	
TOTAL LOSSES	0	318,589	35,676	
EXPECTED LOSSES	434,764	339,470	37,663	
CREDIBILITY	0.01	0.03	0.05	
PURE PREMIUMS				
INDICATED (PRE-TEST)	0.000	1.260	0.141	1.401
INDICATED (POST-TEST)	0.000	1.326	0.148	1.474
PRES. ON LOSS COST LEVEL	1.556	1.215	0.135	2.906
DERIVED BY FORMULA	1.540	1.218	0.136	2.894
UNDERLYING PRES. LOSS COST	1.720	1.343	0.149	3.212
PROPOSED	1.540	1.218	0.136	2.894

YEAR	1-1-19	4-1-19	IND. LOSS COST =	3.356
IND. LOSS COST		3.36		
MAN.LOSS COST	3.61	3.36	ADJ. LOSS COST =	3.36

EXHIBIT 8

PENNSYLVANIA STATISTICAL STUDY

Exhibit 6
Sheet Metal Fabrication & Installation,
N.O.C. - Separate Shop and Field Crews

Exhibit 7
Sheet Metal Fabrication & Installation,
N.O.C. - Interchanging Shop and Field Crew

Manual Year	Pure Premium Reported		T - test values	
2011	0.643	3.260		
2012	0.004	1.601		
2013	0.008	0.087	2011 - 2015	0.1124
2014	0.619	0.238		
2015	0.042	3.418		

Manual Year	Claim Frequency per million		T - test values	
2011	0.155	0.566		
2012	0.000	0.372		
2013	0.000	0.000	2011 - 2015	0.0336
2014	0.260	0.400		
2015	0.000	0.421		

Manual Year	Claim Severity Excl Med Only		T - test values	
2011	41,060	51,550		
2012	0	39,484		
2013	0	0	2011 - 2015	0.2660
2014	21,519	2,862		
2015	0	80,252		